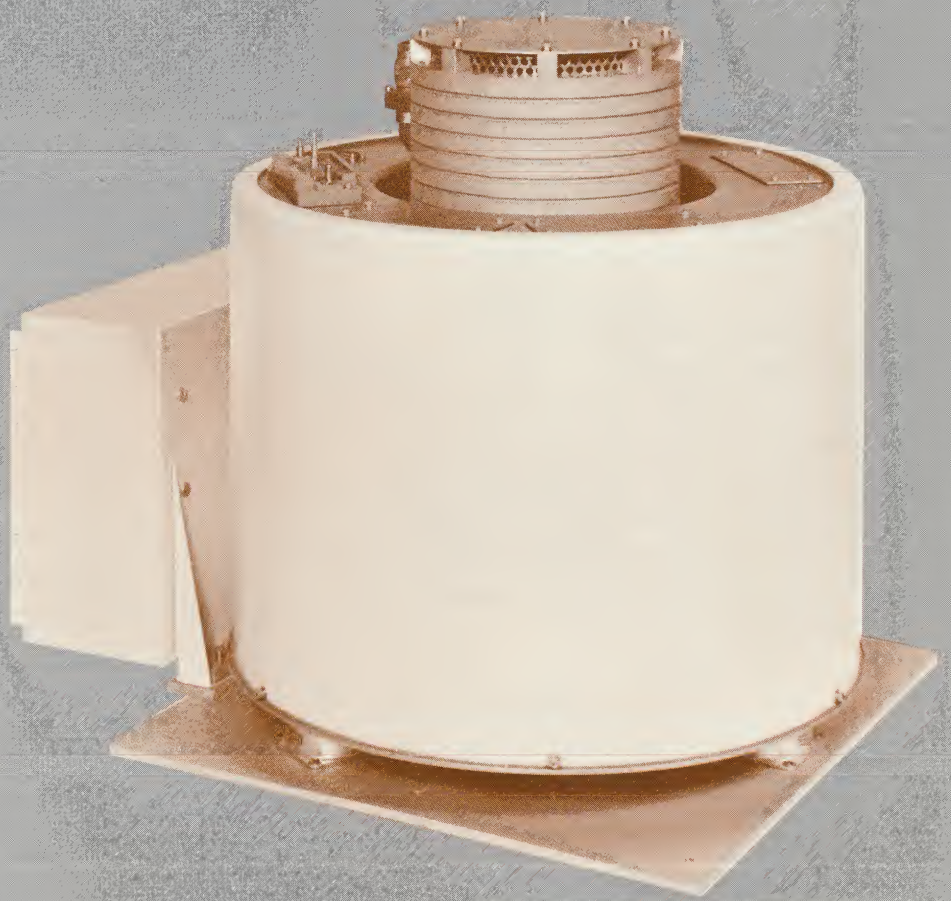
MDM·12

MAGNETIC DISC MEMORY



APPLIED MAGNETICS CORPORATION

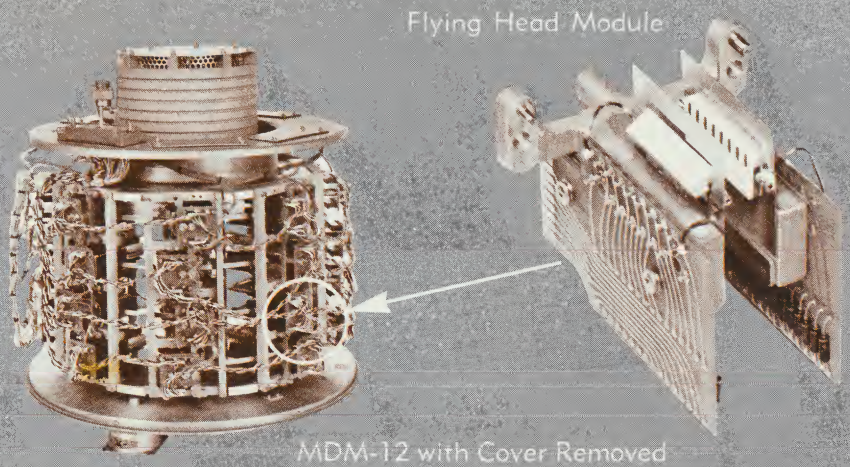
COMPUTER MEMORIES DIVISION

☐ OVER 16 MILLION BIT CAPACITY

☐ 17 MILLISECOND AVERAGE ACCESS TIME

☐ RELIABLE HEAD-PER-TRACK DESIGN

☐ The MDM-12 Magnetic Disc Memory is a random access storage device of the head-per-track type which provides a wide range of capacities. Developed primarily for commercial applications, the MDM-12 uses a maximum of four 12" diameter magnetic discs rotating on a common shaft as the storage medium. Modularity is achieved by the use of precision 8-track flying head pads with two such pads in each 16-track head module. The MDM-12 can be expanded, therefore, in multiples of 8 or 16 tracks. Simple, straight-forward design coupled with rigid construction using carefully selected materials provides high reliability and extremely long operating life.



MDM-12 with Cover Removed

☐ CAPACITIES

Model	Active Discs	Tracks	Capacity in bits
MDM-12-1	1	128	4,224,000
MDM-12-2	2	256	8,448,000
MDM-12-4	4	512	16,896,000

☐ RECORDING MEDIUM A high resolution nickel-cobalt plating is used on the aluminum discs. To increase durability, this recording surface is covered with a thin layer of rhodium plating. This smooth, highly wear-resistant surface allows repetitive starting and stopping of the discs with the head pads in contact without damage to either discs or heads. The uniformity of the recording surface is such that variations in signal level within any given track are less than 10 percent.

☐ READ/WRITE FLYING HEADS The 8-track flying head pads are of the ferrite core type with precision-lapped ceramic bearing surfaces. The head pads are held in contact with the disc surface by a leaf spring when the MDM-12 is not operating. The low friction of the lapped ceramic surface prevents the heads from damaging the discs. As the disc approaches operating speed the flying head pads lift from the recording surface and ride on a cushion of air. The heads fly at a uniform spacing of approximately 50 microinches, thereby eliminating any effects of disc runout.

☐ CONSTRUCTION FEATURES The MDM-12 uses an integral induction motor with high precision, life-time-lubricated ball bearings. The motor drives a shaft to which a maximum of four 12″ diameter recording discs are rigidly attached. The motor mounting plate, eight vertical support members and a base plate complete the unit. The base plate is supported by vibration absorbing mounting feet. The flying head modules are accurately located with respect to the discs by the vertical support members. A dust-tight cover prevents entry of contaminants.

☐ The MDM-12 can be supplied with track selection diodes or complete with read and write electronics and interface logic.

☐ SPECIFICATIONS:

Disc Diameter	12″
Data Tracks/Disc Surface	64
Timing Tracks	3
Average Access Time	17 milliseconds
Rotational Speed	1775 rpm nominal
Bits/Track	33,000
Bit Transfer Rate	1 mc
Recording Method	Phase Modulation
Recorded Track Width	0.020″
Recorded Tracks/Inch	30
Power Requirement	115 V ac, 60 c/s
External Dimensions	16.5″ dia. x 19.25″ high incl. shock mounts

APPLIED MAGNETICS CORPORATION

Amc
Computer Memories Division

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